

# APEX Shared Components

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# Quick introduction

- IT Solutions Architect at Abakus plus, d.o.o
- Oracle ACE Associate
- SIOUG - Vice President
- APEX Alpe Adria co-organizer ( <http://aaapeks.info> )
- Member of the month at apex.world, March 2016

<http://www.oraopensource.com/blog/?category=APEX+Text+Messages>





# Abakus plus, d.o.o.

## History

from 1992, ~20 employees

## Applications:

special (DB – Newspaper Distribution, FIS – Flight Information System)

**ARBITER – the ultimate tool in audit trailing**

**APPM – Abakus Plus Performance and Monitoring Tool**

## Services:

DBA,

OS administration,

Development (MediaWiki, APEX, Java, Forms / Reports)

Networks (services, VPN, QoS, security),

Open Source, Monitoring (Nagios, OCS, Wiki)

## Hardware:

servers, **backup server**, **SAN storage**, firewalls

## Infrastructure:

from 1995 GNU/Linux **(20 years of experience!)**

Oracle on GNU/Linux: since RDBMS 7.1.5 & Forms 3.0 **(before Oracle!)**

**>20 years of experience with High-Availability!**





# Shared Components










Shared components can display or be applied on any page within an application. Developers can use the tools and wizards on the Shared Components page either at the application-level or on specific pages.

<https://docs.oracle.com/database/apex-5.1/HTMDB/managing-shared-components.htm#HTMDB29851>














# Shared Components - 5.1.4

Application Logic	Security	Other Components
 <ul style="list-style-type: none"> <li>Application Definition Attributes</li> <li>Application Items</li> <li>Application Processes</li> <li>Application Computations</li> </ul>	 <ul style="list-style-type: none"> <li>Security Attributes</li> <li>Authentication Schemes</li> <li>Authorization Schemes</li> <li>Session State Protection</li> <li>Build Options</li> </ul>	 <ul style="list-style-type: none"> <li>List of Values</li> <li>Plug-ins</li> <li>Component Settings</li> <li>Shortcuts</li> </ul>
Navigation	User Interface	Files
 <ul style="list-style-type: none"> <li>Lists</li> <li>Navigation Menu</li> <li>Breadcrumbs</li> <li>Navigation Bar List</li> </ul>	 <ul style="list-style-type: none"> <li>User Interface Attributes</li> <li>Themes</li> <li>Templates</li> </ul>	 <ul style="list-style-type: none"> <li>Static Application Files</li> <li>Static Workspace Files</li> </ul>
Data References	Reports	Globalization
 <ul style="list-style-type: none"> <li>Data Load Definitions</li> <li>Web Service References</li> </ul>	 <ul style="list-style-type: none"> <li>Report Queries</li> <li>Report Layouts</li> </ul>	 <ul style="list-style-type: none"> <li>Globalization Attributes</li> <li>Text Messages</li> <li>Translate Application</li> </ul>



# Shared Components – 18.1

Application Logic	Security	Other Components
 <ul style="list-style-type: none"> <li><a href="#">Application Definition Attributes</a></li> <li><a href="#">Application Items</a></li> <li><a href="#">Application Processes</a></li> <li><a href="#">Application Computations</a></li> <li><a href="#">Application Settings</a></li> <li><a href="#">Build Options</a></li> </ul>	 <ul style="list-style-type: none"> <li><a href="#">Security Attributes</a></li> <li><a href="#">Authentication Schemes</a></li> <li><a href="#">Authorization Schemes</a></li> <li><a href="#">Application Access Control</a></li> <li><a href="#">Session State Protection</a></li> <li><a href="#">Web Credentials</a> &gt;</li> </ul>	 <ul style="list-style-type: none"> <li><a href="#">List of Values</a></li> <li><a href="#">Plug-ins</a></li> <li><a href="#">Component Settings</a></li> <li><a href="#">Shortcuts</a></li> <li><a href="#">Email Templates</a></li> </ul>
Navigation	User Interface	Files
 <ul style="list-style-type: none"> <li><a href="#">Lists</a></li> <li><a href="#">Navigation Menu</a></li> <li><a href="#">Breadcrumbs</a></li> <li><a href="#">Classic Navigation Bar Entries</a></li> <li><a href="#">Navigation Bar List</a></li> </ul>	 <ul style="list-style-type: none"> <li><a href="#">User Interface Attributes</a></li> <li><a href="#">Themes</a></li> <li><a href="#">Templates</a></li> </ul>	 <ul style="list-style-type: none"> <li><a href="#">Static Application Files</a></li> <li><a href="#">Static Workspace Files</a></li> </ul>
Data Sources	Reports	Globalization
 <ul style="list-style-type: none"> <li><a href="#">Data Load Definitions</a></li> <li><a href="#">REST Enabled SQL</a> &gt;</li> <li><a href="#">Web Source Modules</a></li> <li><a href="#">Legacy Web Service References</a></li> </ul>	 <ul style="list-style-type: none"> <li><a href="#">Report Queries</a></li> <li><a href="#">Report Layouts</a></li> </ul>	 <ul style="list-style-type: none"> <li><a href="#">Globalization Attributes</a></li> <li><a href="#">Text Messages</a></li> <li><a href="#">Translate Application</a></li> </ul>



# Agenda

- (Global) Application Items
- Data Load Definitions
- Build Options
- Shortcuts
- Text Messages
- Social





# Application Items

- Application level items are used to maintain session state
- Application items can be set using computations, processes, or by passing values on a URL
- Use "On New Instance" computations to set the value of items once for a session
- Use application items to maintain session state that is not displayed and is not specific to any one page







# Application Items - Scope

Specify **Global** if the Application Express session is shared by more than one application and the item's value should be the same for all applications. Specify **Application** otherwise (this is the default).

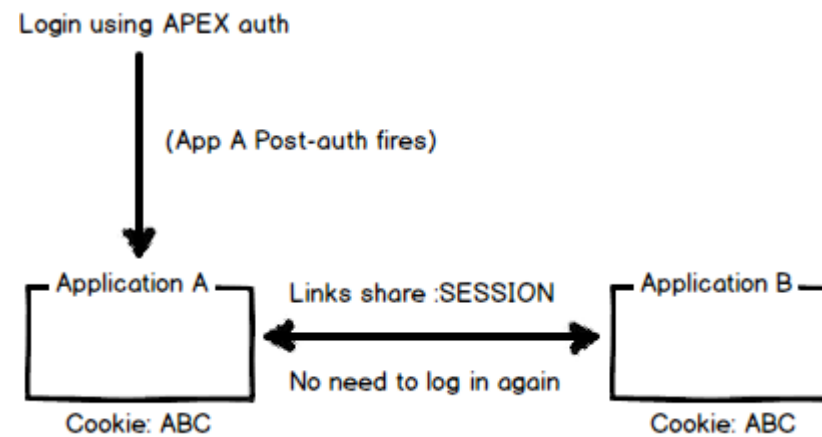
Applications can share the same session if their authentications have **the same Session Cookie Attributes**. The Scope attribute of application items has to be the same across these applications.





# Shared authentication

- <http://www.grassroots-oracle.com/2014/04/shared-authentication-across-multiple-apex-apps.html>



## Authentication Scheme

Cancel **Apply Changes**

Show All	Name	Subscripti...	Source	Session ...	Login Pro...	Post-Log...	Session ...	Comments
<b>Session Cookie Attributes</b>								
Cookie Name	<input type="text" value="ABC"/>						<input style="border: none; border-radius: 50%; padding: 2px 5px;" type="button" value="?"/>	
Cookie Path	<input type="text"/>						<input style="border: none; border-radius: 50%; padding: 2px 5px;" type="button" value="?"/>	
Cookie Domain	<input type="text"/>						<input style="border: none; border-radius: 50%; padding: 2px 5px;" type="button" value="?"/>	
Secure	<input type="radio"/> Yes <input checked="" type="radio"/> No						<input style="border: none; border-radius: 50%; padding: 2px 5px;" type="button" value="?"/>	



# Data Load Definitions

- A Data Load Definition is comprised of a Data Load Table, Table Rules and Lookup Tables, used by the Data Loading wizard in your application.
- The Data Loading wizard creates a new data loading wizard
- Four pages will be created within the new wizard
- All of the pages can be customized after they are created to meet the needs of your application
- Roel Hartman, Pump up the volume - The APEX Data Loader inside out
  - <https://www.slideshare.net/roelhartman/pump-up-the-volume-the-apex-dataloader-inside-out>





# Data Load Definitions

- Transformation Rules
- Table Lookups
- Column Name Aliases
- Multiple Spreadsheet Columns into one Table Column
- Manage Concurrency





# Build Options

- Build Options allow application components and functionality to be conditionally enabled or disabled when the application is installed
- Set Build Option in runtime via  
APEX\_UTIL.SET\_BUILD\_OPTION\_STATUS
- Build Options can be applied to the majority of components, such as Pages, Regions, Items, Validations, **Report Columns (5.1)**,...
- **Included** - Enabled and are part of the application
- **Excluded** - Disabled and are not a part of the app. (**18.1 - Remove Components**)
- Value can be different on export
- Don't use "Condition = Never", use Build Option!
- <https://jackiemcilroy.blogspot.si/2017/09/build-options-agile-development.html>
- <http://www.explorer.uk.com/apex-developer-mode/>





# Build Options

- Runtime API Usage in APEX for:
  - APEX\_UTIL.SET\_BUILD\_OPTION\_STATUS
  - APEX\_UTIL.GET\_BUILD\_OPTION\_STATUS (also for GET)
- Usage in PL/SQL

```
declare
  l_my_option varchar2(1000);
begin
  apex_util.set_security_group_id(apex_util.find_security_group_id('APEXWORLD'));

  select apex_util.get_build_option_status(
          p_application_id => 134, p_build_option_name => 'MY_BUILD_OPTION')
  into l_my_option from dual;
end;
```





# Build Options

- <http://www.talkapex.com/2012/08/integrating-build-options-in-your-plsql/>

```
SELECT upper(build_option_status)
  into l_build_option_status
  FROM apex_application_build_options
 WHERE application_id = p_app_id
       AND build_option_name = p_build_option_name;

IF l_build_option_status = 'INCLUDE' THEN
  RETURN 'Y';
ELSE
  RETURN 'N';
END IF;
```





# On Upgrade Keep Status

Select whether the build option status in the deployed application should be kept, or overwritten with the specified status when the application is upgraded. Selecting Yes to keep the deployed status is useful if the application supports build option configuration (via the `APEX_UTIL.SET_BUILD_OPTION_STATUS` API) to enable or disable the build option in the deployed application, and where you want to respect those settings upon upgrade.







# Shortcuts

- Use Shortcuts to write frequently used code once and then reference it in many places within your application
- Shortcuts also allow for dynamic generation of code in places that typically only support static text
- Shortcuts are substitution strings that are expanded using the syntax: "SHORTCUT\_NAME"
- Subscriptions
- We are all using shortcuts :

```
javascript:  
    apex.confirm(htmlldb_delete_message  
                , 'DELETE');
```





# Shortcuts – used in locations

- Region Source for regions of type HTML\_WITH\_SHORTCUTS
- Region Templates, Region Headers & Footers
- Item Labels
- Item Default Value
- Item Post Element Text
- Item Help Text
- HTML Header of a page





# Shortcuts - types

- PL/SQL Function Body
- HTML Text
- HTML Text with Escaped Special Characters
- Image
- Text with JavaScript Escaped Single Quotes
- Message
- Message with JavaScript Escaped Special Quotes





# Shortcuts – Item Substitutions

Creating shortcuts on page item labels and page item post element text attributes can include the following substitution strings:

- #CURRENT\_FORM\_ELEMENT#
- #CURRENT\_ITEM\_ID#
- #CURRENT\_ITEM\_NAME#
- #CURRENT\_ITEM\_HELP\_TEXT#





# Shortcuts – example

Shared Components → Shortcuts

**Type:** HTML Text

**Name:** SC\_HTML\_1

**Shortcut:** This is <b>shortcut</b>

**Type:** HTML Text with Escaped Special Chars

**Name:** SC\_HTML\_2

**Shortcut:** This is <b>shortcut</b>

On Page: Add new Static Content Region

**Source:** <br/>"SC\_HTML\_1"  
<br/>"SC\_HTML\_2"

**Attributes:** **Expand Shortcuts:** YES

Shortcuts

This is shortcut

This is <b>shortcut</b>



# Shortcuts – example

Shared Components → Shortcuts

**Type:** PL/SQL Function Body

**Name:** SC\_LABEL

**Shortcut:** return 'This is label for #CURRENT\_ITEM\_NAME#';

On Page: Add New Item

**Label:** "SC\_LABEL"

Shortcuts	
This is label for P2_NEW	<input type="text"/>





# Shortcuts – example

Shared Components → Shortcuts

**Type:** Message

**Name:** **DELETE\_CONFIRM\_MSG\_1**

**Shortcut:** null

Shared Components → Text Messages

**Name:** **DELETE\_CONFIRM\_MSG\_1**

**Language:** Slovenian

**Text:** Some text in Slovenian language

**Name:** **DELETE\_CONFIRM\_MSG\_1**

**Language:** Croatian

**Text:** Some text in Croatian language

On Page:

Function and Global Variable Declaration:

```
var htmldb_delete_message_shortcut='"DELETE_CONFIRM_MSG_1"';
```

Button Behavior:

```
javascript:apex.confirm(htmldb_delete_message_shortcut,'DELETE');
```



# Text Messages

- Oracle Application Express is translated into **German, Spanish, French, Italian, Japanese, Korean, Brazilian Portuguese, Simplified Chinese, and Traditional Chinese**. If your application uses a language that is not among the ten languages into which Oracle Application Express is translated, you must translate messages displayed by the Application Express reporting engine.
- For example, if you develop a Russian application and want to include report messages, such as pagination, in Russian, you must translate the strings used in messages displayed in reports.
- Translate APEX - Collection of APEX translations
- <http://translate-apex.com>







# Text Messages

## 20.6.4.3 Internal Messages Requiring Translation

Internal Messages Requiring Translation lists the internal messages that require translation.

**Table 20-3 Internal Messages Requiring Translation**

Message Name	English Text
APEX.ACTIONS.TOGGLE	Toggle %0
APEX.ACTIVE_STATE	(Active)
APEX.AUTHENTICATION.LOGIN_THROTTLE.COUNTER	Please wait <span id="apex_login_throttle_sec">%0</span> seconds to login again.
APEX.AUTHENTICATION.LOGIN_THROTTLE.ERROR	The login attempt has been blocked.
APEX.COMBOBOX.LIST_OF_VALUES	List of Values
APEX.COMBOBOX.SHOW_ALL_VALUES	Open list for: %0
APEX.COMPLETED_STATE	(Completed)
APEX.CORRECT_ERRORS	Correct errors before saving.
APEX.DATA_HAS_CHANGED	Current version of data in database has changed since user initiated update process. current checksum = "%0" application checksum = "%1".



# Text Messages and Shortcuts

Shared Components → Shortcuts

**Type:** Message

**Name:** `DELETE_CONFIRM_MSG_1`

**Shortcut:** null

Shared Components → Text Messages

**Name:** `DELETE_CONFIRM_MSG_1`

**Language:** Slovenian

**Text:** Some text in Slovenian language

**Name:** `DELETE_CONFIRM_MSG_1`

**Language:** Croatian

**Text:** Some text in Croatian language

On Page:

Function and Global Variable Declaration:

```
var htmldb_delete_message_shortcut='"DELETE_CONFIRM_MSG_1"';
```

Button Behavior:

```
javascript:apex.confirm(htmldb_delete_message_shortcut,'DELETE');
```



# Text Messages and JavaScript

Application: **79480 Sticky Buttons** ?

\* Name  ?

Language  ?

Used in JavaScript  Yes  No ?

\* Text

Used in JavaScript ×

Select **Yes** if the message is used in apex.lang.\* API calls in JavaScript code.

[View Documentation](#)

↑ Application 79480 \ Shared Components \ Translate \ **Text Messages**

Name	Language	Text	Used in JavaScript
<a href="#">MY_TXT_MSG</a>	en	How are you?	Yes
<a href="#">MY_TXT_MSG</a>	sl	Kako ste?	Yes



# Text Messages and JavaScript

How are you?

Application Primary Language : English

```
apex.lang.getMessage("MY_TXT_MSG")
```

Kako ste?

Application Primary Language : Slovenian

```
apex.lang.getMessage("MY_TXT_MSG")
```





# Text Messages – APEX 18.1

- For a given text message MY\_MESSAGE, you can now use and v('APP\_TEXT\$MY\_MESSAGE') to retrieve the message text.
- Use APP\_TEXT\$MY\_MESSAGE\$XX to return the translation text for language XX (examples for XX are DE, FR, ...)
- Same syntax is supported on the client via the apex.util.applyTemplate API

```
http.p( v('APP_TEXT$MY_TXT_MSG') )
```

```
http.p( v('APP_TEXT$MY_TXT_MSG$EN') )
```

```
http.p( v('APP_TEXT$MY_TXT_MSG$SL') )
```



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